

ABSTRACT

The present invention concerns a method of forming one or more thin films on a substrate by depositing two or more materials by vacuum evaporation, comprising, depositing each material under such control that n_i value of the each material is $k \pm 0.5$ wherein k is a constant from 2 to 5, when relationship between a deposition position and a film thickness of a material i on the substrate is approximated by the following equation (1):

$$D_i/D_{0i} \propto (L_0/L_1)^3 \cos^{n_i} \theta_1 \quad (1)$$

wherein L_0 is a distance from an evaporation source to a plane of the substrate in a perpendicular direction, D_{0i} is a film thickness of the material i at an intersection point of a perpendicular line from the evaporation source to the plane of the substrate, and D_i is a film thickness of the material i at a position on the substrate which is apart from the evaporation source by a distance L_1 in a direction of an angle θ_1 against the perpendicular line. By the method, a homogenous thin film layer for an element can be formed even on a substrate having large screen.